Best Practices in Clinical Teaching and Evaluation

Marilyn H. Oermann, PhD, RN, ANEF, FAAN
Thelma M. Ingles Professor of Nursing
Duke University School of Nursing
Editor, Nurse Educator & Journal of Nursing Care Quality
marilyn.oermann@duke.edu

Preparation of Nursing Students
- Many competencies to be developed for practice
  - Increased complexity, acuity
  - New technologies
  - Highly specialized care interventions
  - Continued shift of care to homes, community
  - Cultural competency

Preparation of Students cont
- Core competencies
  - Patient-centered care
  - Interprofessional collaboration and practice
  - Evidence-based practice
  - Quality improvement
  - Safety
  - Informatics

Other Challenges in Clinical Teaching
- Lack of evidence to guide clinical education practices

Other Challenges in Clinical Teaching cont
- Traditional model of clinical teaching
  - Clinical learning dependent on:
    - Available patients and experiences
    - When students "there"
  - Research findings: graduates not well prepared

Other Challenges in Clinical Teaching cont
- National survey by Nursing Executive Center of new graduates’ proficiency in 36 competencies
  - Only 10% of nurse executives report new graduates prepared for practice
  - Satisfied with only 2 competencies:
    - Use of information technology (e.g., computers)
    - Developing rapport with patients
Other Challenges in Clinical Teaching

- Lowest ranked competencies: learned in clinical setting
  - Work independently
  - Manage multiple responsibilities
  - Prioritize
  - Anticipate risks
  - Delegate

Systematic review of experienced RNs’ perceptions of clinical competence of new graduates

- 2 main areas of concern related to critical thinking and clinical/technical skills


Rethink Clinical Education

- Traditional model: clinical learning dependent on
  - Available patients and experiences
  - When students “there”
- New models of clinical education
  - Dedicated education units
  - Clinical immersion experiences

Focused Clinical Teaching

- Focus on specific competencies to be developed
  - Planned activities to learn clinical concepts (e.g., immobility)
  - Experience concept in simulation, then clinical practice or vice versa: may not matter


Dedicated Education Unit (DEU) Model

- Traditional
  - DEU
  - Preceptors, clinicians are teachers

Clinical Immersion Experiences

- Aim: Narrow the theory-to-practice gap
- Students have concentrated, intensive clinical practice
  - End of semester or program (e.g., capstone or transition course)
- Evidence
  - Enhanced confidence and clinical skills
  - Graduates often seek employment at clinical site where they had experience
  - No clear evidence on improving readiness to practice (transition)

Focused Clinical Teaching cont
- Better studies on outcomes of different models and teaching methods
- Study (ADN program) comparing 1 long day (12 hours) vs. 2 short days for clinical experience
  - 146 students randomly assigned
  - No difference in learning outcomes between the 2 groups


Guiding Principles for Clinical Teaching
- Students’ clinical practice should reflect the realities of practice
- Clinical problems
  - High ground: student knows what is wrong and what to do (patient problems match class, readings)
  - Swampy lowlands: complex, unique, not clear cut (most are this)
  - Use cases, open-ended questions

Guiding Principles for Clinical Teaching cont
- Clinical learning activities provide opportunities for transfer of knowledge
  - Some students need more guidance with this than others
  - Teacher: talk aloud how to address patient problems
    - Post conference: analyze care as a group

Guiding Principles for Clinical Teaching cont
- Students are learners (not nurses)
  - Teacher, others need to recognize this
  - Check expectations
- Students need time to learn before evaluate performance
  - Feedback while learning: teacher’s role is to fill gaps, guide learning and performance

Feedback
- Most important variable affecting learning
- Should be:
  - Specific, informational
  - Given at time of learning
  - For procedures, technologies, and motor skills, provide both verbal and visual feedback

Qualities of Effective Teacher
- Well studied
- Good teaching
  - Clinical teaching requires mutual trust, respect
  - Learn through interactions
- Teacher sets positive learning environment
Qualities of Effective Clinical Teacher cont
- Knowledgeable about clinical practice area
- Clinically competent
- Skilled in teaching
- Communication with students, positive learning environment...
- Fairness in evaluation
- Personal characteristics: enthusiastic, willing to admit mistakes, patient, etc.

Practice is Critical
- Deliberate practice
  - Repetitive practice of skills (cognitive, motor)
  - Assessment of performance + feedback
- Strong association between extent of practice and performance
- Loss of skill with non use
- Distribute practice over time

Motor Learning and Practice
- Cognitive
  - Understanding how to perform skill
  - Accuracy
- Associative
  - Refining movement
  - More consistency
- Autonomous
  - Can perform without thinking about each step
  - Automatic

Cognitive Phase
- When skill first introduced
- Student learns cognitively
  - What the specific skill involves
  - How to perform the skill (equipment, technique)
- Verbal reminders from teacher prompt performance
- Performance: slow, awkward with goal to perform accurately

Associative Phase
- Focus is on refining the skill
  - Master smaller details (e.g., timing)
- Performance becomes more consistent
- Practice can lead to rapid improvement in performance

Autonomous Phase
- Proficient in performing skill
- Performance automatic
  - Little or no cognitive activity
- Improvement in performance is not as obvious
  - Able to adapt motor skill, procedure to unique patient situation and environment
Teaching Clinical Skills in Nursing

- Build practice beyond course in which skills 1st taught¹
  - Simulation with deliberate practice better than practice in clinical setting alone
- Combine with mastery learning²
  - Predetermined standards to be met
  - Time for each student varies


Student Stress in Clinical Practice

- Clinical practice most stressful experience
  - Fear of making mistakes
  - Feelings of incompetence
  - Interactions with others (inverse relationship to stress)
  - Being evaluated...


Student Stress in Clinical Practice cont

- Teach stress management
  - Research: need to practice techniques

Teacher Stress in Clinical Teaching

- Multiple demands
- Heavy workload
- Balancing needs of students, patients, staff
- Teaching inadequately prepared students...

Patient Assignment

- Choose variety of clinical learning activities
  - Few studies
  - Patient care, but not all “complete care”
  - Other activities
  - Focused on clinical competencies of course and students’ learning needs

Asking Questions

- Levels of questions
  - Goal: ask high level questions (open ended, multiple perspectives) but evidence shows...
    - Teachers and preceptors ask low level questions in clinical practice, conferences
    - Many questions seek yes/no response
Asking Questions cont

- Early studies
- Phillips et al.
  - 133 clinical teachers, clinical educators, preceptors
  - Majority of questions at knowledge level
  - Educators who had course/workshop asked significantly more higher level questions


Asking Questions cont

- Use taxonomy to think about questions you ask
  - What is lymphoma?
  - Tell me about your patient’s fatigue and shortness of breath. What are some other possible reasons for these symptoms?
  - You did x today for Ms. Jones. What other interventions could you try? Evidence to support?
  - What is the impact on her and her family with this early discharge?

Asking Questions cont

- Prepare students for questions to promote their thinking
  - Open ended
  - Talk through answers (think aloud)
  - Goal: to think like a nurse

Integrated Cases for Assessment

- Develop short cases that integrate:
  - Concepts in course, across courses
  - Threads in curriculum
  - Readings
  - Ask higher level questions
    - Can students think through scenario?
    - Can students relate concepts, readings to scenario?

Integrated Cases for Assessment cont

- Develop short cases with
  - Omitted lab data
  - Issues with orders, treatments
  - High risk medications
  - Lack of teamwork
  - Poor quality care...
  - Do students recognize and know what to do?

Complexity of Cases

- Well-structured—problem is described clearly, sufficient information is included
- Ill-structured—problem reflects real-life clinical situations
  - Different problems may be possible
  - Data set may be incomplete
  - Multiple approaches may be possible
  - Use more of these than well-structured
Sample Case 1
Your patient was placed in high fowler’s position because of difficulty breathing. You notice he is developing a sacral pressure ulcer. The staff nurse suggests you lower the head of the bed.
1. What questions should you ask the staff nurse before lowering the head of the bed? Why are these questions important?
2. What do you think is best practice in this situation? Provide a rationale.

Sample Case 2
Your 78-year-old patient is postop for a knee replacement. During the team huddle, you report that her speech is slow & slurred. The care plan is to ambulate, resume regular diet, and get speech consult.
1. What are immediate safety priorities? Why?
2. How should you address these safety concerns?
3. Report your observations about the patient to the group using SBAR.

Evidence to Support
- Integrative review (70 articles)\(^1\)
  - Most common delivery methods were live presentation (49%), followed by online (20%), mixed methods (19%)
  - Outcomes: link theory to practice, high level learning
- Cases (with educational technologies)\(^2\)
  - Improve cognitive (16 studies), attitudinal (12 studies), procedural learning (8 studies)


Written Assignments in Clinical Courses
- Goals for each assignment?
- How much repetition?
- Short assignments:
  - Prevent summarizing what others have written
  - Focus on outcomes
  - Can be done in clinical conferences and critiqued by peers

Examples
- Describe how your patient’s treatments and interventions are similar to or different from your readings and why. (1 p.)
- Select a new intervention for your patient and develop a rationale for its effectiveness. (1 p.)
Examples cont

- Select an actual medical error and as a clinical group do a root cause analysis. Interview experts, review literature on case, develop risk reduction plan with recommendations for system and QI. (2 pp)


Too Much to Do?

Too Many Papers?
Not Enough Time?

Try Group Writing in Post Conference

Nursing Care Plans

- Enable students to
  - Analyze patients’ problems
  - Design plans of care
  - Select evidence-based interventions
  - Identify outcomes to measure
- Should be usable, realistic

Nursing Care Plans cont

- Do they promote problem solving and higher-level thinking?
  - No research to support
- Do students only summarize from textbook without thinking about information?
  - Probably
- How many in a course? What type?
  - You decide

Clinical Conferences

- Gear questions to competencies/outcomes
- Ask higher level questions to assess thinking
- Give students feedback, fill gaps

Clinical Conferences

- Limited research
  - Online vs face-to-face
  - Discussion of assessment
    - What data are important? Not significant?
    - What other information do you need?
  - Critique of interventions
    - As a group generate other possible interventions

Clinical Conferences cont

Concept Maps
- Studies in nursing:
  - Effective for problem solving and critical thinking
  - Varied measures of critical thinking
  - Guidelines for use? Timing in course and clinical experience? How many?

Purposes of Clinical Evaluation
- Identify existing competencies
- Identify learning needs to be addressed during clinical practicum
- Assess progress
- Make judgments if competencies achieved at end

Concept of Clinical Evaluation
- Involves observing performance and judging student’s competence
- Subjective process
  - Judgment influences what is observed and interpretations
  - Key is fairness—judge all students by same standards

Clinical Evaluation vs. Grading
- Evaluation
  - Teacher observes performance and collects other types of data, then compares information to standards to make a judgment
- Grading
  - Assigning a symbol to represent the judgment made

Formative vs. Summative
- Formative
  - Feedback, progress
  - Not graded
- Summative
  - Achievement of outcomes, competencies
  - End-of-instruction
  - Graded
Clinical Evaluation: Essential Steps

- **Decisions:**
  1. Purpose of evaluation?
  2. Formative or summative?
  3. Grading (P-F, letter, other)?
  4. Evaluators
     - Faculty only? Preceptor? Self? Multiple?
  5. What methods for evaluating each competency?
  6. How many times?

Predominant Methods

1. **Observation**
   - Of competencies to be achieved
   - Consider
     - Student’s level of expertise
     - Effects of clinical situation on evaluation

Observation: Studies show...

- Your values and biases
  - Over-reliance on 1st impressions
- Window of time
- “Good data” but incorrect judgment

So...

Predominant Methods cont

2. **Rating performance**
   - List of outcomes or competencies learner is to demonstrate
   - Scale for rating performance of them
   - Most are intended for summative evaluation

Types of Rating Scales

- Pass-fail most common
- Letter system
- Qualitative labels (excellent to poor)
- Frequency labels (always to never)
- Matrix combining different qualities of the performance

Common Errors With Rating Scales

- Leniency, severity, logical...errors
- Lack of interrater reliability
  - Do all evaluators agree on meaning of competencies?
  - Conducts comprehensive assessment...
  - May be problem even when using descriptors with scale
Common Errors With Rating Scales cont

- Rater drift
  - Definition or interpretation of competencies to be assessed changes over time
  - Even if you prepare clinical teachers and preceptors...drift over time

Clinical Evaluation Tool should be:

1. Consistent with outcomes or competencies
2. Valid
  - Does tool collect intended information about performance?
  - Does tool measure safe, effective practice?

Clinical Evaluation Tool should be: cont

3. Reliable
   - Same results when used by different faculty and with different student groups?
4. Appropriate number of competencies?

Clinical Evaluation Tool

- Same tool for all courses or course-specific tool?
  - Most use 1 tool for all courses
  - Competencies adapted to each course
- Two-level or multilevel scales?
  - Most use pass-fail or satisfactory-unsatisfactory rating scales

Improving Use of Tool

- Prepare clinical teacher, preceptor, others for using tool
  - Meaning of each competency
  - What would performance look like to pass or fail, or at each rating level?
  - Norm: discuss competency and its meaning + come to agreement among evaluators

Improving Use of Tool cont

- Have regular discussion of competencies to be rated
- Annual evaluation of tool, process
  - What’s working? Not working?
  - Other data needed?
  - What methods would provide those data?
Rater Training
• Improve evaluator’s skill in observing and rating performance
• **Rater error training**
  • Increase awareness of rater errors that could occur and how to avoid them
  • Studies show if evaluators know potential rating errors (e.g., halo effect, leniency error), they are less likely to make them

Rater Training cont
• **Frame of reference training**
  • Prepare evaluators to recognize standard for rating performance
  • Reference point for evaluators to use
  • **Content oriented training**
  • **Iterative process**
    • Observe and rate performance, check consistency in ratings, discuss discrepancies

Use Multiple Evaluation Methods
• Observation
• Assignments
• Papers (can be short)
• Concept maps
• Journals
• Short cases
• Post clinical conferences

Use Multiple Evaluation Methods cont
• Simulations for summative evaluation
• Standardized patients
• Objective Structured Clinical Examination
• E-portfolios
• Others

Clinical Evaluation Methods
• Method should provide data on specific competency

Incorporating Simulation into Evaluation Protocols
• Identify competencies to be assessed with simulation
• Identify types of simulations needed for those competencies
• Are simulations available or need to be developed?
• Formative or summative evaluation or both?
• Train raters
Simulation for High Stakes Assessment

- High stakes assessment is difficult to do
- Time and effort to develop and validate scenario, develop valid and reliable tools, train raters...
- Some faculty may not be good at this


Standardized Patients

- Provides consistency in performance evaluation
- Recreate same patient condition and clinical situation with each student
- Provide written and oral feedback to students on their performance

Standardized Patients cont

- Seniors, 2nd level students, alumnae serving as SPs
- Peer-assisted learning with SPs
  - 2nd semester students were SPs and peer teachers for 1st semester students in health assessment course
  - Beginning students did focused physical assessment on SP (who gave feedback to students)


Objective Structured Clinical Examination (OSCE)

- Assess clinical competencies
- Students rotate through stations where they perform assessments, clinical skills, procedures and are evaluated on them
- Most use standardized patients
- Performance rated by multiple examiners (or video recorded)

E-portfolios

- Documents in portfolio provide evidence of meeting competencies
- Requires reflection by student
- Assessment: formative, summative or both
- Systematic review
  - 69 studies (32 were nursing)